

There is little doubt, also, that once it is reconciled to the inevitable, the Marconi Company will realise the very substantial benefits it will obtain, both financially and otherwise. It is clear that the free and rapid growth of any one system will now tend to the development of all; it is clear, too, that the advantageous positions obtained by the Marconi Company on the coasts of the greatest shipping nation of the world will confer on it an inestimable advantage, of which it would surely have been deprived had a monopoly been allowed. It has been several times pointed out in *NATURE* that State control—and international control—of wireless telegraphy is a necessity, a fact recognised by all nations, and that this control could not be the control of a privately owned monopoly.

In reference to this clause—the only one of first importance—it should be mentioned that certain Powers, amongst them Great Britain, reserve the right to exempt certain stations from its operation on condition that they provide adequate substitutes for the closed stations.

One other proposal of great importance was that brought forward by the United States, that there should be the same obligation for compulsory intercommunication between ship and ship, and a supplementary agreement to this effect was signed by all the Powers except Great Britain, Japan, Italy, Mexico, and Persia. In view of the onerous nature of this obligation on shipowners in the present state of the art, we are inclined to think that the time is not yet ripe for its adoption, though doubtless it will be adopted by all the Powers at some future conference, and in the meantime individual ships have everything to gain and nothing to lose by carrying out its object whenever possible.

The convention also provides for priority of all messages of distress and answers thereto, for equitable division and regulation of charges, and for the establishment of an international bureau for the transaction of administrative work, publication of information, and so forth, but none of the twenty-three other articles deserves special comment. It may be added, though this naturally goes almost without saying, that the convention imposes no restrictions on the naval or military uses of wireless telegraphy. These never were and never could be a subject for international settlement. The various States are pledged to ratify the provisions as quickly as possible, and it is hoped the convention will become operative on July 1, 1908. Between now and then, we shall probably hear and read a good deal more about it in Parliament and in the Press, and it is to be hoped that those who write on the subject to the daily Press will make some attempt to understand the technicalities and to study the provisions of the convention.

MAURICE SOLOMON.

NOTES.

THE honours conferred by the King on the occasion of his sixty-fifth birthday appear to be mainly for political services, and there is little recognition of the claims of science. Mr. John Tweedy, president of the Royal College of Physicians, has received the honour of knighthood; Colonel R. C. Hellard, director-general of the Ordnance Survey, and Mr. F. G. Ogilvie, principal assistant secretary (Technology and Higher Education in Science and Art) Board of Education, have been appointed Companions of the Order of the Bath; Colonel D. A. Johnston, formerly director-general of the Ordnance Survey, has been appointed a Knight Commander of the Order of Saint Michael and Saint George; Prof. R. W. Boyce, F.R.S.,

has received the honour of knighthood; and Dr. J. M. Lang, Vice-Chancellor and principal of the University of Aberdeen, has been appointed a Commander of the Royal Victorian Order.

A STATEMENT has recently obtained currency that the French people themselves, after a hundred years' use of the metric system, cannot claim that it has been adopted throughout France, and a free translation of a circular issued to chambers of commerce in France by the French Minister of Commerce has been employed to support the statement. The Decimal Association in this country recently addressed a letter to the French Minister of Commerce with a view to determine what justification existed for the statement referred to. The Minister's reply makes it clear that the circular is directed only against the use of *old names* in certain trades, and that the English translation misinterprets its meaning and conveys a wholly wrong impression. It is satisfactory to find, in view of such endeavours to retard the acceptance of the metric system by this country, that it has recently been adopted in the works of Messrs. Joseph Crosfield and Sons, Ltd., and steadily grows in popularity.

UNDER the chairmanship of Mr. Lawrence Hardy, M.P., a large and representative conference of fruit growers from the fruit-growing counties of England was held at the South-Eastern Agricultural College, Wye, on November 7. Papers were contributed on planting of fruit trees, strawberries, American blight, and fungus diseases. In the latter paper reference was made to the American gooseberry mildew, the appearance of which in England has been noted by the college mycologist (Mr. Salmon), and a resolution calling upon the Board of Agriculture to take immediate steps to prevent further importation of gooseberry bushes and to destroy infected stocks in this country was unanimously passed. The disease appeared in Ireland in 1900, and has made most extensive ravages in that country, and serious alarm is felt by growers that a similar result may ensue in England unless drastic measures are immediately taken.

SHOCKS of earthquake were felt at Akureiri, Iceland, at 10.20 p.m. on November 8, followed by more shocks of less violence between 1 a.m. and 2 a.m. on November 9.

PROF. W. WIEN, professor of physics in the University of Würzburg, has become chief editor of the *Annalen der Physik* (Leipzig: J. A. Barth) in succession to the late Prof. Drude.

THE Bradshaw lecture of the Royal College of Surgeons will be delivered by Mr. Edmund Owen on Wednesday, December 12, upon the subject of "Cancer; its Treatment by Modern Methods."

A CHRISTMAS course of lectures, adapted to a juvenile auditory, will be delivered at the Royal Institution by Mr. W. Duddell, on "Signalling to a Distance; from Primitive Man to Radiotelegraphy" (experimentally illustrated). The lectures will commence on December 27.

IT is proposed, on the occasion of the retirement of Major Craigie, C.B., from the Board of Agriculture and Fisheries, to entertain him at a complimentary dinner on Wednesday, December 12, in recognition of his services to the interests of agriculture and the furtherance of statistical knowledge.

THE balloon *Milano*, of 1000 cubic metres capacity, which started from the exhibition grounds at Milan on Sunday morning, November 11, descended at Aix-les-Bains at

2 p.m. on the same day, having crossed Mont Blanc. The *Milano*, which was piloted by Signori Murillo and Cresti, rose to an altitude of upwards of 6000 metres while crossing the Alps.

THE Board of Agriculture and Fisheries announces that a horticultural exhibition will be held at Mannheim, in the Grand Duchy of Baden, from May to October, 1907. Exhibits from this country will be admitted to the fruit, vegetable, orchid, and cactus shows. Applications for information should be addressed to the office of the exhibition, Friedrichsplatz 14, Mannheim, Germany.

At the annual general meeting of the Mathematical Society on November 8 the council and officers for the ensuing session were elected. The list is as follows:—*president*, Prof. W. Burnside; *vice-presidents*, Sir Wm. Niven, Prof. A. R. Forsyth; *treasurer*, Prof. J. Larmor; *secretaries*, Prof. A. E. H. Love, Mr. J. H. Grace; *other members of the council*, Dr. H. F. Baker, Mr. A. Berry, Mr. A. L. Dixon, Prof. E. B. Elliott, Dr. J. W. L. Glaisher, Mr. G. H. Hardy, Dr. E. W. Hobson, Prof. H. M. Macdonald, Mr. A. E. Western, Mr. A. Young.

THE *Athenaeum* announces the death, in his sixty-sixth year of Prof. A. K. Christomanos, professor of general chemistry in the University of Athens. In 1889 Prof. Christomanos became director of the chemical laboratory in the University, and by his efforts it was brought to a high standard of perfection. He was the author of a number of works dealing with his special subjects, and also did good work in geology and mineralogy.

THE Prince of Monaco is, *La Nature* reports, arranging for a first international conference on oceanography and marine meteorology to be held, if possible, at the time of the inauguration of the museum of oceanography. The latter date is not yet fixed, but foreign men of science are being invited to take part in the proposed conference. Inquiries and other communications should be addressed to Dr. Jules Richard, at Monaco.

MR. JOHN DEVONSHIRE ELLIS, who died at his residence at Worksop on Sunday, November 11, was one of the makers of modern Sheffield, and a pioneer in the development of British metallurgy. He was the first to adopt the Bessemer process of steel making, and introduced many important inventions in the manufacture of armour-plates. He was vice-president of the Iron and Steel Institute, and in 1889 received from that body the Bessemer gold medal in recognition of the value of his services to the metallurgy of iron.

CIRCULARS of invitation have just been issued to the ninth International Congress of Geography, to be held at Geneva on July 27–August 6, 1908. The president of the congress will be Dr. A. de Claparède, president of the Geographical Society of Geneva; vice-presidents, Profs. R. Gautier and R. Chodat; and general secretary, M. Fernand Tavel. Most of the sections of the congress will meet in rooms at the University of Geneva. Four languages—German, French, Italian, and English—will be recognised at the congress, and memoirs should be written in one of these languages or in Latin. Papers and abstracts should be sent in by November 30, 1907.

At the annual general meeting of the Cambridge Philosophical Society on October 29, Dr. Fenton, vice-president, in the chair, the following were elected officers of the society for the ensuing session:—*president*, Dr. Hobson; *vice-presidents*, Dr. Baker, Dr. Fenton, Mr. D. Sharp;

treasurer, Mr. H. F. Newall; *secretaries*, Mr. A. E. Shipley, Rev. E. W. Barnes, Mr. P. V. Bevan; *new members of the council*, Prof. Larmor, Prof. Thomson, Dr. Duckworth, Mr. W. G. Fearnside.

A REUTER message from Paris states that M. Santos Dumont made further trials of his airship on Monday in the presence of members of the committee of the Aéro Club and numerous spectators. At the second trial two wheels of the apparatus left the ground, and in five and one-fifth seconds the machine travelled a distance of about 500 metres, in the course of which it rose four times. At another trial the aeroplane started off, followed by a motor-car conveying the members of the committee. It rapidly covered 500 metres, proceeding by successive bounds and soon outpacing the motor-car. The committee, on measuring afterwards the distances traversed, found that the aeroplane, after reaching a height of between four and five metres, had traversed in level flight a distance of 220 metres, without touching the ground, in twenty-one and one-fifth seconds, thus travelling at the rate of about ten metres a second. The best time recorded was seven and one-fifth seconds over a distance of 82.60 metres, representing a speed of about 40 kilometres an hour.

MALARIA in Greece was the subject of a paper read by Major Ronald Ross, F.R.S., before the Oxford Medical Society on November 9. Prof. Ross described the valley of Lake Kopais, in Boeotia, the scene of his recent study of malaria in Greece. The locality was the dried-up bed of a large lake, drained in remote times, but in the Middle Ages reverting to marsh once more owing to the drainage works falling out of repair. Recently, restoration has been taken in hand, and the bed of the ancient lake is now a fertile plain covered with crops of all kinds, but the inhabitants are decimated by malaria, the type of disease being very severe, pernicious attacks common, and black-water fever extremely common. In five localities the minimum malaria-rate among children was found to range between 25.5 per cent. and 40.9 per cent. Prof. Ross considers that the country is eminently suited to the application of drainage measures for the eradication of the disease. A Grecian malaria society has commenced the work with energy, and an appeal for funds on behalf of the scheme has been issued by the Liverpool School of Tropical Medicine, and is under the patronage of Princess Christian.

THE *Daily Chronicle's* correspondent at Rome reports that Prof. Waldstein's international project for the excavation of Herculaneum has gained the unanimous adhesion of the Royal Commission of Antiquities and Fine Arts in Rome, under the following conditions among others:—(1) Subscriptions are to be of a private character, without the official intervention of foreign States, and the funds are to be administered by an International Committee centred in Rome. (2) An executive commission is to be constituted of foreign members representing the contributing countries and Italian representatives. (3) All scientific material to be published first of all under the supervision and at the expense of the Italian Government, the Minister of Public Instruction being empowered to invite the co-operation of national and foreign publishing houses. (4) All objects excavated to be the absolute property of the Italian Government, which, however, will retain the faculty of conceding to foreign States, according to the measure of their respective generosity as contributors to the exploration fund, duplicates and other finds, where this can be done without prejudice to Italy's national collections.

At the inaugural meeting of the new session of the Institution of Civil Engineers on November 6, the president, Sir Alexander Kennedy, F.R.S., delivered an address on the relation of the engineer and engineering to the world at large. In relation to science, he pointed out that not a few engineers spend their whole lives in what is really scientific work, while nominally only earning their daily bread in ordinary mechanical pursuits. The paths of the artist and the engineer seem too often to be divergent, but as soon as engineering works are treated on their own merits, and not as if they are mistaken imitations of other things, it will be found that they can possess even artistic as well as other merits. Everyone now recognises that there is a dignity in a *Dreadnought* which is almost majestic, and that a modern liner forms really as fine a subject for a picture as a full-rigged ship. In concluding, the president spoke of the future of engineering and of the possibility—which he thought a very small one—of finding anything in mechanical science corresponding to the “survival of the fittest,” or any traceable lines along which mechanical evolution takes place. Invention forms such a disturbing influence in engineering evolution that any prophecy on evolutionary lines is impossible. It is still more useless to attempt to forestall the future by trying to do to-day what it is supposed that other people may try to do twenty years hence. The *Great Eastern*, broken up for scrap almost within hail of the *Carmania*, was a pathetic tragedy, from this point of view, in engineering.

EDUCATIONAL Leaflet No. 22 of the National Association of Audubon Societies is devoted to an account of the blue jay (*Cyanocitta cristata*) by Mr. W. Dutcher, the president of the association. It is accompanied by a coloured plate of the bird.

THE greater part of the September issue of the Proceedings of the Philadelphia Academy is taken up by the description of a large collection of Orthoptera from Montana, Utah, Colorado, and the Yellowstone Park. The authors of the paper are Messrs. J. A. G. Rehn and M. Hebard, of whom the second made the collection. Many new forms are described.

OF two zoological articles included in Nos. 6 and 7 of the fifth volume of the *Boletín de la Sociedad Aragonesa de Ciencias Naturales*, the first, by the Rev. R. P. Longinos Navás, is devoted to abnormal hens' eggs, of which several are figured in a coloured plate. Some of these appear to be of the type not uncommonly met with in the case of old birds about to cease from laying. One, however, is remarkable for its rose-red colour, due, it is supposed, to the parent hen having fed on a particular kind of bulb. In the second, three new Spanish Neuroptera are described, one forming the type of a new genus.

IN an address delivered to the Hull Scientific and Field Naturalists' Club at a conversazione held on October 17, Mr. T. Sheppard, the president, took for his subject the relationship between provincial museums and local scientific societies. The address has been published in the Transactions of the club, and reprinted in pamphlet form as No. 36 of the Hull Museum Publications. Hull, it appears, is very fortunate in respect to the good relations existing between the municipal museum and the local scientific society, this good fellowship, it is stated, being of special value to the museum, and likewise, in a minor degree, conducive to the interests of the ratepayers. In many other towns the relationship is, however, according to Mr. Sheppard, of a less satisfactory nature, the museum

officials ignoring the work and disdaining the assistance of the amateurs. Neither is it considered advantageous for the museum to be “run” by the local society, such an arrangement tending, it is urged, to check donations owing to want of security as to the permanency of the former.

ACCORDING to *La Nature* of November 3, Brussels is about to inaugurate a new era in the matter of fresh-water aquariums by the opening of a building in the Avenue Louise. The new institution is not intended to be a merely popular exhibit, with a few tanks in which a certain number of more or less unhealthy-looking fishes are shown. On the contrary, it is purposed to display, as time goes on, the complete fresh-water fauna of Belgium in suitably constructed basins and tanks, including, of course, those distinctive of rivers, lakes, and ponds. Nor will the flora be neglected, the scheme being to show as much of this as is found practicable. The central salon will resemble a winter garden, with a large central basin and tanks let into the walls. In some of these tanks will be shown examples of all the indigenous fresh-water fishes, while others will be devoted to the exhibition of crustaceans, molluscs, batrachians, reptiles, worms, insects, and plankton. It is hoped that the institution will prove, not only an attraction to the general public, but that it will have a definite scientific value, and will also aid in the re-stocking of the depleted Belgian rivers with fish. Acclimatisation is to be a feature of the aquarium, in which a tank will be reserved for the American cat-fish, preparatory to introducing that species into the rivers of the country.

THE history and origin of zoological gardens and natural history museums forms the subject of a long article by Mr. J. von Pleyel in *Naturwissenschaftliche Wochenschrift* for October 28. Menageries, in the author's opinion, owe their origin partly to the cult of sacred animals and partly to the ambition of rulers to possess specimens of rare and valuable creatures from foreign lands or savage ones from their own. In their simplest form zoological gardens were, indeed, one of the earliest developments of culture, and were familiar to the Chinese, Indians, Greeks, Romans, and pre-Spanish Mexicans in very ancient times. The oldest recorded menagerie is, as might be expected, Chinese, dating from 1150 B.C. The den of lions kept by Darius, as described in the Book of Daniel, is an example of one of these primitive menageries, while the cult of sacred white horses by the ancient Greeks and Romans, and that of so-called white elephants in Burma and Siam, are instances of a second type. After a survey of the records of establishments of this nature during the Middle Ages and immediately succeeding periods, the author refers to the typical menageries of modern times, incidentally mentioning that a live giraffe was received at Schönbrunn so early as 1828. The Paris establishment is regarded as the earliest entitled to the designation “zoological gardens,” in the modern sense of that term, which owes its origin, however, to the foundation of the menagerie in the Regent's Park. Of German establishments of this nature, the one at Berlin is the earliest.

THE causes producing a cessation of vitality in old trees are imperfectly, if at all, understood. There are various interesting problems concerned with this question, notably the continued propagation of trees by vegetative methods. In this connection Mr. R. S. Hole is contributing an article on pollard-shoots, stool-shoots, and root-suckers to the *Indian Forester* (July and August). It seems probable

that root-suckers play an important part in the regeneration of some Indian trees, and the author instances the production of practically pure woods of *Diospyros tomentosa* and *Ougenia dalbergioides* by this means, so that the subject is worthy of careful inquiry and observation.

THE September number of the Quarterly Journal issued from the Liverpool University Institute of Commercial Research in the Tropics deals mainly with agriculture on the west coast of Africa. Viscount Mountmorres writes a eulogistic article on the results achieved by the Gold Coast Department of Agriculture, comparing the gardens at Aburi very favourably with the gardens at Konakry, in French Guinea. Rubber and cacao are the primary products at Aburi, and the instruction of the natives in their cultivation and preparation is an important branch of the work. An account of the agricultural resources of the Ivory Coast, contributed by Mr. E. Castaing, provides interesting information as to the commercial varieties of the indigenous rubbers, the nature and uses of kola nuts, and the native method of preparing palm-oil.

AN account of the red-rot disease of sugar-cane caused by the fungus *Colletotrichum falcatum* occupies a considerable portion of the third memoir of the Department of Agriculture in India, which deals with fungus diseases of sugar-cane. The author, Dr. E. J. Butler, adduces evidence to show that the disease generally originates in the lower part of the plant, producing eventually characteristic red streaks in the vascular tissues. Amongst other fungal pests, Dr. Butler describes two stem diseases attributed to new species of *Cystospora* and *Sphaeronema*, and a more serious leaf-spot disease caused by a species of *Cercospora* also differing from species hitherto recorded.

THE Department of Commerce and Labour, Washington, has issued a report on the blind and deaf (including the deaf and dumb) in the United States, the data having been collected in connection with the twelfth census (1900). At the census itself, however, the work of the enumerators was restricted to a brief preliminary return showing the name, sex, age, post-office address, and nature of the existing defects in all persons alleged to be blind or deaf. More detailed information was then obtained by direct correspondence with the individuals named in the primary returns, or with their parents or guardians, questions being asked as to the total or partial character of the defect, the age at which the defect, if not congenital, was first remarked, the supposed cause, the relationship, if any, between the parents, the relatives who were similarly defective, and the school, if any, at which the defective person had attended. It is from the data contained in these personal returns that the report is compiled. Dr. Alexander Graham Bell is responsible for the scope and conduct of the investigation, and the text of the report relating to the deaf. It may be noted that of the blind whose parents were cousins 25 per cent. were congenitally blind, whilst of the blind whose parents were not so related only 7 per cent. were congenitally blind. Similarly, of the deaf whose parents were cousins 42 per cent. were congenitally deaf, whilst of the deaf whose parents were not so related only 15 per cent. were congenitally deaf. The report is a valuable one, with much more, and more trustworthy, information than has yet been obtained in any similar investigation, but it suffers from a common defect, viz. the lack of comparative information of a similar kind relating to the non-defective, which is essential to a proper interpretation of the results; this

especially applies to the statistics relating to defective relatives and to the consanguinity of the parents. The need is only partially met by the comparative figures for congenital and non-congenital defectives.

A NOTE by Signor Alessandro Artom on his system of wireless telegraphy, first invented in 1903, is contributed to the *Atti* of the Lincei Academy, xv. (1), 12. The peculiarity of this system is that by the use of two aerial conductors instead of a single antenna an unsymmetric electromagnetic field is produced, and it is thus possible to send messages in definite directions. Experiments have been made with the cooperation of the Italian naval authorities, chiefly between Monte Mario (Rome), Anzio (distant 55 km.), and the island of Maddalena. By varying the orientation of the aërials, communication could be established or cut off at will.

THE new "Dolomiten Strasse" brings many of the most interesting portions of the Dolomite region within easy access. Leaving Cortina, it rises rapidly over the Col di Falzarego, passing over a shoulder of Monte Nuvolau, and affording a fine distant view of the Marmolata ice fields. It then descends rapidly to Pieve Livinallonga, where it skirts the hill-side at a considerable height above the valley, and it next rises by zigzags to the top of the Pordoi Pass, passing close by some of the most interesting members of the Sella group. From here it descends to Campitello, whence Botzen may be reached *via* the Karersee. The new road is completed with the exception of the portion from the Col di Falzarego to Cortina, where the old road is available for vehicular traffic.

A "NATURE-KNOWLEDGE DIARY," compiled by Mr. W. Percival Westell, has been published by Messrs. Blackie and Son, Ltd. Provision is made for plotting the daily barometer readings on a suitably numbered squared paper chart, but it does not seem to have occurred to the compiler that thermometer readings are also worth plotting, and that the same charts can be used for this purpose. The general arrangement of the blank forms for recording observations, of which the diary is almost entirely made up, is likely to prove convenient. The price of the book is 6d. net.

THE eighth edition of Prof. R. Hertwig's "Lehrbuch der Zoologie" has just been published by Mr. Gustav Fischer, Jena. The work originally appeared fifteen years ago, and was reviewed in NATURE of June 22, 1893 (vol. xlviii., p. 173).

OUR ASTRONOMICAL COLUMN.

DISCOVERY OF A NEW COMET.—A telegram from the Kiel Centralstelle announces the discovery of a new comet at Copenhagen on November 10. Its position at 17h. 35m. (Copenhagen M.T.) was

R.A.=9h. 16m. 3.2s., dec.=12° 28' 31" N.,

and it is travelling in a north-easterly direction. The daily movement is given as +4.2m. in R.A. and +1° 10' in declination. When discovered, the comet was about 8m. west of ϵ Leonis, and is therefore travelling towards the constellation Leo. Its position rises, at present, at about 11 p.m.

A second telegram from the Centralstelle informs us that this object was observed by Herr Rheden at Vienna on November 11, its position at 16h. 7.5m. (Vienna M.T.) being

R.A.=9h. 20m. 9s., dec.=+13° 35' 25".

Unfortunately no idea of the comet's brightness is given in these telegrams.